

Serial No.: 09/739,903
Atty. Docket No.: P66227US0

REMARKS

The Final Office Action mailed February 11, 2004, has been carefully reviewed and by this Amendment, Applicants have canceled claims 9 and 10 without prejudice or disclaimer, and amended claims 1 and 5. Claims 1-8 are pending in the application.

The Examiner rejected claims 9 and 10 under 35 U.S.C. 112, first and second paragraphs. Applicants have herein canceled claims 9 and 10.

The Examiner rejected claims 1-8 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,953,139 to Nemecek et al. ("Nemecek") in view of Horiuchi et al., "Stimulated Brillouin Scattering Suppression Effects Induced by Cross-Phase Modulation in High Power WDM Repeaterless Transmission", Electronics Letters, Vol. 34, No. 4, 19 February 1998 ("Horiuchi"). The Examiner also rejected claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,414,772 to Miyazaki in view of U.S. Patent No. 6,023,366 to Kinoshita.

As clarified in amended claims 1 and 5, the present invention uses a supervisory signal having a modulation frequency in the range of approximately 150 to approximately 250 MHz to supervise the wavelength division multiplexing link system because cross phase modulation (XPM) effectively occurs in the lower modulation frequency, as shown in Fig. 2. Moreover, the present invention uses an additional transmission line, i.e., the second transmission means, to generate the supervisory signal for causing the XPM.

Nemecek teaches a method for suppressing stimulated Brillouin scattering (SBS) by applying a single tone modulation signal having a frequency in the range of 1.8GHz to 5GHz to a phase modulator. The single tone modulation signal is appropriate for transmission of a bandwidth

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of analog signals such as signals of cable television (CATV). However, Nemecek does not teach or suggest the use of a supervisory signal for causing the cross phase modulation.

Horiuchi discloses a method for suppressing SBS by using cross phase modulation between neighbor channels of 2.5Gb/s at a wavelength division multiplexing (WDM) link without using an additional channel having a lower modulation frequency. Horiuchi fails to teach suppressing SBS by using a low frequency channel such as a signal of 150 to 250 MHz. If modulation speed is decreased in order to increase the effecting of XPM, the capacity of the WDM system is decreased accordingly. For example, a conventional WDM system having 8 channels of 2.5Gb/s has a capacity of 20Gb/s (2.5Gb/s x 8 channels). However, if the modulation frequency is decreased to 155Mb/s for effective generation of XPM, the capacity of the WDM system will be decreased to 1.25Gb/s (155Mb/s x 8 channels).

For at least the foregoing reasons, claims 1 and 5 are patentable over Nemecek and Horiuchi. Claims 2-4 and 6-8 are also in condition for allowance as claims properly dependent on an allowable base claim and for the subject matter contained therein. Favorable reconsideration and entry of the amendment is therefore requested.

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Should the Examiner have any questions or comments, the Examiner is cordially invited to telephone the undersigned attorney so that the present application can receive an early Notice of Allowance.

Respectfully submitted,

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